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RICHMOND HOSPITAL

RECORDS.

BY

WILLIAM STOKES,

SURGEON TO THE RICHMOND SURGICAL HOSPITAL;

LECTURER ON SURGERY, CARMICHAEL SCHOOL OF MEDICINE;

FELLOW OF THE ROYAL MEDICO-CHIRURGICAL SOCIETY OF LONDON;

ETC., ETC.

Reprinted from the Dublin Quarterly Journal of Medical Science—February, 1870.

DUBLIN:

JOHN FALCONER, 53, UPPER SACKVILLE-STREET,
PRINTER TO HER MAJESTY'S STATIONERY OFFICE.

1870.





From a Photograph taken nineteen days after the Operation



Mr Stokes on Excision of the Upper Jaw

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RICHMOND HOSPITAL RECORDS.

- I. EXCISION OF THE UPPER JAW.
- II. AMPUTATION AT THE ANKLE-JOINT.
- III. PRIMARY AMPUTATION AT THE ANKLE-JOINT.
- IV. AMPUTATION OF THE FORE ARM.
- V. AMPUTATION OF THE THIGH.
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- VII. AMPUTATION OF THE PENIS.
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- X. TRACHEOTOMY.
- XI. BUROW'S PLASTIC OPERATION.
- XII. TABULAR VIEW OF THIRTY-THREE CASES OF FRACTURE.

A RECORD, as briefly given as the particulars of the cases will admit of, and for the treatment of which I deemed the surgical operations above indicated, necessary, will not I trust, be uninteresting to those engaged in surgical practice.

1. *Excision of the Upper Jaw.*—James M., aged fifty, was admitted into my wards in the Richmond Surgical Hospital on the 11th of March, 1868, having been recommended to me by my eminent colleague, Dr. Lyons.

The patient stated that about a year before the date of his admission into hospital, a small ulceration appeared at the junction of the soft and hard palates. This ulceration, which presented all the external characters of epithelioma, was removed by operation in September, 1867. After some time, however, the disease returned, and spread slowly, both anteriorly and posteriorly. It never extended, however, beyond the mesial line. About a month before the patient's admission into hospital the disease appeared externally, on the cheek namely, and from this opening there was a constant oozing of clear fluid, which, as the opening was in the immediate vicinity of Steno's duct, was most probably saliva. The general health of the patient was excellent, and there was only one small gland which was perceptibly enlarged, and which was situated immediately below the angle of the jaw. The epithelial ulceration,

which was very irregular, extended considerably, both in front of and behind the junction of the soft and hard palate. There was occasional, but very slight hemorrhage from the ulceration. The patient slept well, and his appetite was excellent.

Having regard as well to the external characters of the disease as to its clinical history, it was tolerably evident that the case was one of epithelioma, which had originated in the muco-periosteum of the hard palate, and which subsequently involved the bone to a considerable extent. Although, doubtless, the case could not be considered as typical for the operation of resection, permanent benefit, as Professor Syme observes, being in all cases more confidently to be expected from the operation, when the consistence of the tumour is essentially firm, yet, considering the comparatively limited extent of the disease, the case was one that demanded prompt operative interference.

On March 4th, the patient was brought into the operating theatre, and placed seated in a strong high backed chair. His arms and legs having been carefully secured by bandages to the chair, chloroform was then administered. When the patient was brought fully under its influence, I commenced by making an incision from the inner angle of the eye downwards and outwards to the inner edge of the salivary fistula. The incision was then carried horizontally inwards towards the mesial line near the septum of the nose, and finally brought vertically downwards, a little to the right of the central line through the red border of the lip. The inner flap, or that next the nose was dissected carefully backwards towards the left side, and then the two superior maxillary bones were separated by Charrière's long bone forceps, one limb of this powerful instrument being placed along the floor of the nose, and the other in the mouth. The separation of these bones was effected by this admirable instrument with the utmost facility. The posterior flap was then dissected backwards towards the arch of the zygoma. At the junction of the superior maxillary bone with the malar, the separation was effectually accomplished by one of Langenbeck's small resection saws. When this was done, the saw was then carried upwards and inwards, below the infra orbital ridge, up to the junction of the nasal bone with the nasal process of the superior maxillary bone. Great care was taken not to interfere with the floor of the orbit. The necessary division of the osseous structures having been now accomplished, the separated bone was seized with a lion forceps, and without much difficulty was removed. Other

portions of bone which were found to be diseased, were carefully removed by straight and rectangular gouges, and the horizontal plate of the palate bone was also removed by strong forceps; portion of the soft palate on the right side was also excised by strong curved scissors. The hemorrhage was not at all so great as was anticipated. Only one vessel had to be ligatured. Any hæmorrhage from others was effectually arrested by the actual cautery. No plugs of lint or any dressings were placed in the cavity. The edges of the wound were then brought together by numerous points of metallic wire suture.

As regards the progress of this case, little that is specially remarkable is to be observed. No secondary hemorrhage occurred. Two days after the operation, symptoms of erysipelas of the head were developed commencing on the bridge of the nose. However, under the use of antimonials and mild purgatives, &c., they subsided. The wound in the face healed with surprising rapidity. Four of the sutures were removed on the third day, and the remainder on the fifth. The case progressed in every way most favourably. On the tenth day after the operation the following note is in my case book:—"The patient is free from all pain and uneasiness. Eats, drinks, and sleeps well. His articulation is becoming more distinct every day. There is no sign of the re-formation of a salivary fistula."

On March 23rd, exactly nineteen days after the operation, the patient was photographed by Mr. Forster, of Westmoreland-street, and on the following day he returned to the country. The accompanying lithograph is taken from the photograph.

Amputation at the Ankle-Joint.—Amputation at the ankle-joint, as first suggested and practised by Professor Syme, has long and justly been considered one of the greatest modern improvements in practical operative surgery. The following case adds another to the long list of those which have shown so unquestionably the great importance of this procedure.

Bridget C., aged twenty-three, a native of the south of Ireland, was admitted into the Richmond Surgical Hospital on the 27th March, 1868. The patient is of a delicate strumous temperament, and, from long-continued suffering, and many sleepless nights, had the care-worn and anxious expression of face, seen so invariably in those who are the subjects of protracted and painful disease. The patient states that about two years ago, without any assignable

cause, the joint became affected. She does not remember ever having got any blow on, or near the joint, nor does she remember ever having even sprained the ankle. About twelve months after, the joint first became affected, the pain and swelling in it became so aggravated as to render walking or standing no longer possible. She was then recommended by her friends to consult a bone-setter of some local celebrity, who informed her that in his opinion the bones of the ankle-joint were displaced, and that an attempt should be made at once to restore them to their natural situation. Accordingly the joint was subjected to what, from the description, must have been very violent extension and twisting, in order to effect the reduction of the supposed luxation. After this mistaken and violent treatment, the previously existing symptoms became much aggravated, the pain especially, which never allowed her a single night's rest. Any attempt to walk or use the joint was now wholly out of the question. Things remained in this way for several months, and then as the symptoms were evidently not diminishing in intensity, she determined to seek for surgical advice in Dublin.

On examination, the enlargement, which was very considerable, was found principally over the astragalus. There was exquisite tenderness over the joint, especially at its inner side. The slightest motion of the joint gave extreme pain. At night she suffered much from shooting and stinging pains, which gave her much distress. There were no sinuses or any evidence of abscess formations. The anterior portion of the foot was healthy. There were no hectic symptoms, cough, or diarrhœa, and her appetite was good. Looking at the history of the case, the urgency of the symptoms, and the length of time they had lasted, it was clear the case was one demanding prompt operative interference, and I contemplated one of two procedures, namely, either resection of the ankle-joint, or amputation in the manner first recommended and practised by Professor Syme. Looking, however, at the debilitated condition of the patient, and the strong probability of the disease not being sufficiently localized in any particular part of the tarsus, circumstances which would militate strongly against a successful resection of the joint, I deemed amputation preferable, and accordingly proposed the operation to the patient, who willingly acceded to it.

On the 2nd of April, the operation was performed. In arresting the hemorrhage, the method of torsion to which I was anxious to give a fair trial, did not prove at all as satisfactory as I would have

desired. Very considerable difficulty was experienced, especially in arresting the bleeding from an interosseous artery, which eventually had to be secured by a ligature. On examination of the foot, the disease was found to be more extensive than from the previous symptoms and appearances I had anticipated. All the bones of the tarsus were more or less diseased, the morbid process being specially evident in the astragalus, the greater portion of which was completely softened and diseased. A very remarkable condition was found on the articular surface of the tibia; namely, an adventitious ridge or bony prominence, which extended horizontally across the centre of the articular surface of the bone, and which seemed to have become developed in order to replace the body of the astragalus, which, from disease, had become softened and flattened. The cartilage of incrustation on the articular surfaces of the tibia and astragalus, was eroded and ulcerated, but the carious process in both the tibia and fibula appeared to be extremely limited, and when the section of the bones was made, the osseous structures appeared perfectly normal.

In making some clinical remarks suggested by this case to the class of the hospital, I could not avoid congratulating myself that amputation and not resection had been resorted to, for, notwithstanding the arguments so ably and forcibly put by Mr. Hancock in favour of resection in cases of caries of the ankle-joint, there can be no doubt that although the operation of resection is indicated before all others in many cases of injuries of the ankle, such as, for example, gunshot injuries, as shown by the remarkable results obtained by Professor Langenbeck during the Schleswig-Holstein war of 1864, and in some cases of disease obviously originating from injury; yet that, in caries of the ankle-joint, in the ordinary acceptation of the term, the morbid process is seldom if ever so localized as to justify resection. In such cases, therefore, amputation at the ankle-joint is in every respect the most satisfactory and most scientific procedure that can be had recourse to. It is unnecessary to give the daily progress of this case. On May 2nd, exactly one month after the operation, it is noticed in my case book that "during the past week the case has progressed without a bad symptom; wound is nearly healed; promises to be a most successful result." A fortnight after this date, the wound had completely healed.

Primary Amputation at the Ankle-Joint—Patrick Masterson,

aged twenty-five, by occupation a railway porter, was admitted into the Richmond Surgical Hospital, on the 30th of last April, suffering from a severe crush of the foot which he received half an hour previously, in consequence of the wheel of an engine having passed over it. He was standing near the rail as a locomotive was passing by, when a bolt struck him pushing his foot under the wheel. There was a very extensive and deep lacerated wound, not only on the dorsum but also on the sole of the foot, and all the metatarsal bones, with the exception of that of the great toe, were crushed. Owing to the extensive and deep wound on the sole of the foot, I deemed it inadvisable to perform the medio-tarsal amputation, but determined, after consultation with my colleague, Professor R. W. Smith, to perform Syme's amputation at the ankle-joint. The operation was accordingly performed at 10 a.m. on the day of his admission. The first three days after the operation everything went on favourably, but on the fourth there was a decided change for the worse, the pulse rose to 112, and there was a violent erysipelatous inflammation extending from the wound up towards the knee. There was also the commencement of the formation of a small slough on the inner side of the leg, about two and a half inches above the wound.

May 6th.—Slough much increased, also the inflammation, which has assumed all the characters of phlegmonoid erysipelas, has extended above the knee.

May 7th.—Pulse 116; at 9 30 a.m. the resident clinical clerk, Mr. Briseoe, found that a very sharp hemorrhage had taken place; the limb, in fact, was bathed in blood, and the patient, in a state of extreme collapse and weakness from the loss of blood. Mr. Briseoe and Mr. Vesey arrested the hemorrhage, which came from the flap, by elevating the limb, and making firm pressure on the femoral artery. I was immediately sent for, and on my arrival found that the bleeding had entirely ceased. Nothing further was then done, except to administer freely diffusible stimulants.

May 8th.—Pulse 116; much stronger. Patient in every respect improved. Inflammation not so violent.

May 9th.—There was another smart hemorrhage to-day from the flap. Portion of it appears as if it were about to slough away, which eventually it did.

May 12th.—Much better; pulse 100. From this date the patient continued to improve rapidly. The portion of the flap that sloughed was replaced by healthy granulations. These soon cicatrized, and on 17th June the patient was able to go about on

crutches, and when he left the hospital the wound had completely healed. After an interval of four months, I saw the patient again, and a better shaped and more useful stump I have never had an opportunity of seeing. The accompanying woodcut is taken from a cast of the limb.



This case is of greater importance than the preceding one in proving the great merits of Syme's amputation, as it shows that even when the unfortunate accident of partial sloughing of the flap occurs, the surgeon need not consequently at all despair of the patient obtaining eventually a useful and well-formed stump.

Amputation of the Forearm.—Mary O'B., aged thirty-seven, was admitted into the Richmond Surgical Hospital, on March 7th, under my care, suffering from a large encysted synovial tumour connected with the flexor tendons of the forearm. The tumour was extremely painful, and from this circumstance, as well as from its size, rendered the limb useless to the patient, whose avocation was that of a workwoman. Several methods of treatment, having for their object the absorption of the fluid contents of the tumour, such as pressure, iodine applications, blistering, &c., were had recourse to, but without producing any effect whatever on the

tumour. After consultation, it was determined to puncture the tumour with a cataract needle, and in this way to give exit to a small amount of the fluid. This was done, and for some days the case went on very favourably, but the improvement was only temporary, for after this, symptoms of inflammation in the tumour supervened, which no antiphlogistic measures that were adopted succeeded in allaying. Suppuration then took place, and there was no course open to us, then, but to lay the tumour freely open. After this the most violent symptoms followed. Large abscesses formed in the hand and forearm, which had to be freely opened as they formed. There was also complete and permanent contraction of the fingers. As the inflammation and suppuration were increasing in intensity and extent, and rapidly exhausting the patient, and as the limb was now, from the complete contraction of the fingers, and the matting together of the muscles of the forearm, quite useless to the patient, I recommended amputation, and performed the antero-posterior flap operation about a hand's breadth below the elbow-joint, on May 6th. No difficulties attended the operation; the hemorrhage was chiefly arrested by torsion, and the wound dressed subsequently by Lister's antiseptic method. In this case union did not take place by first intention, but the amount of suppuration which followed was, I am bound to say, extremely small, and the healing process went on with great rapidity.

Amputation of the Thigh.—No topic in surgery has of late years more actively engaged the attention of surgeons than that of determining the method of amputation of the thigh, which is fraught with least danger to the patient, and affords the most satisfactory results, not only as regards the appearance, but also the form of stump which can be best adapted to the subsequent application of mechanical appliances. The fact that many of such operative procedures have each of them advocates, is a sufficient proof that the opinion of surgeons is still to a great extent unsettled as to the best mode of thigh amputation. There can be little doubt that of the comparatively novel procedures the "rectangular method," suggested first by the late Mr. T. Pridgin Teale, and which in the Dublin School has found such a warm advocate in my friend, Mr. Croly, is one which, perhaps more than any other, has found favour among surgeons. This results from the supposed advantages of this operation, which are doubtless familiar to my

readers, and which it is therefore unnecessary to enumerate. However, objections have been raised to this method which are not by any means devoid of foundation. These are—1st, the great extent of cut surface that the operation necessitates; 2nd, the longitudinal division of muscular tissue; and 3rd, the high division of the bone. The amputations of Spence and of Carden get rid to a great extent of these defects. Of this latter operation, the amputation by a long anterior skin flap, notwithstanding the favourable accounts Mr. Carden gives of his results, I cannot think highly. The operation which seems to me to get rid best of two of the supposed defects in Mr. Teale's amputation—viz., the extensive division of muscular tissue, and the high division of the bone—is the method which has been suggested by Mr. Wharton.

It is, I believe, an undisputed fact that, at all events in amputation of the thigh, the nearer to the trunk the bone is divided the greater is the risk to the patient. Dieffenbaeh, in one of his lectures on amputation of the thigh, pithily expresses this in the sentence, "*Zollweise steigt die gefahr,*" which freely rendered in English means, "the danger increases by the inch." Any modification therefore of the method of the rectangular amputation, which has for its object the saving of bone, and which, in all other respects, affords equally good results as in the method recommended originally by Mr. Teale, must obviously be an improvement. The modification may be given in Mr. Wharton's words:—"Let the measurements for Teale's amputation be accurately taken and mapped out, but instead of dividing the bone—I am now specially referring to the thigh, at the site directed by him—let it be sawn at the situation corresponding to the inferior termination of *his* posterior flap, and let the superior boundary of the anterior flap be limited by the same plane. The saving of bone thus effected will be considerable, and therefore tend directly to diminish the mortality of thigh amputations. According to this method the anterior flap will be shorter by a fourth than Teale's, and there will be no posterior flap." As this proposal appeared to me to be based on sound surgical principles, I determined that I would give it a trial the first opportunity that occurred.

Shortly after this, J. Hoey, aged thirty-four years, by occupation a sailor, was admitted into the Richmond Surgical Hospital on account of very extensive lupoid ulceration of the right leg. It commenced about eight years ago after a fall over a rope, against

which the lower part of the leg struck, which he sustained while running along the deck of the vessel during a dark night. Shortly after this, ulceration appeared in the situation where the injury had been received, and commenced to spread extensively.

For some time after his admission into hospital the case was actively treated, both locally and constitutionally, and very considerable improvement took place. So much so, that he was making arrangements to return home, when suddenly a sloughing process supervened, having many of the characters of hospital gangrene. This spread rapidly, engaging the dorsum of the foot, and laying bare the tendons, muscles, and arteries. From the latter, which became ulcerated and opened, very sharp hemorrhage occurred, which was with much difficulty controlled; indeed, it was not satisfactorily arrested until I passed acupuncture needles under the vessels, and made pressure on the arteries by passing loops of wire across the needles. The "third method of acupuncture" was adopted, and proved in every respect perfectly satisfactory. As the disease spread close to the knee-joint, I did not think it advisable to amputate below the articulation, and I was also deterred from doing so from the fact of the disease attacking the stump, and I did not think either that I could get sufficient healthy integument to cover the broad cut surface of the tibia in front. Behind, I admit, I might possibly have obtained a sufficiency, but I was deterred from making the attempt by a very strong objection which I have to long posterior flaps taken from the calf of the leg. All things considered, I deemed it preferable to amputate above, but as near to the knee-joint as I could, and I have not, I must allow, been disappointed in the result, whether as regards situation of the amputation or the method adopted.

It is unnecessary to enter into any of the minute details, either as regards the operation or the subsequent progress of the case. The former was performed without any deviation from the proposed modification of Teale's amputation, and of the latter, one mishap has to be recorded (though, in truth, it might be adduced as an argument in favour of the operation to those who object to the modification on the grounds of there not being a sufficiency of flap), and that was, that four or five days after the operation a small portion of the anterior flap sloughed away; but, notwithstanding this, there appears to me to be an ample covering of soft parts on the face of the stump. Now, what are the objections which have been urged by surgeons against the modification?

They are six in number, and may be briefly enumerated as follows:—

- 1.—The cicatrix being too near the face of the stump.
- 2.—Tension of soft parts on the face of stump.
- 3.—Insufficiency of covering.
- 4.—That, owing to retraction of the tissues, the posterior surface of the bone projects, and is denuded of soft tissues.
- 5.—Liability of cicatrix to become adherent to the immediately subjacent bone.
- 6.—Increased risk of pyemia.

As regards the first of these objections, I would remark that it appears to me that instead of the cicatrix being too near the face of the stump, the chances are that, owing to the retraction of the posterior tissues, it will be further away from the face of the stump than in the operation as originally suggested by Mr. Teale. When the posterior tissues are divided they immediately retract, and the retraction does not cease at the time of the operation, but continues during the process of healing,—a fact recorded long since by Alanson—and consequently the cicatrix is drawn high up on the posterior surface of the limb. So much, then, for the cicatrix being too near the face of the stump.

The second objection is the liability to tension of the soft parts on the face of stump. This, it has been said, exists in Hoey's case. It may, I confess, be there to a certain extent; but I do not think that it will in any way interfere subsequently with the usefulness of the stump. As regards this point, too, it must be remembered that he had a certain loss of tissue from sloughing of the anterior edge of the flap. Had that not taken place there can be no doubt we should not have had the amount of tension, such as it is, which has been observed.

The result of my case shows also that the third objection, viz., insufficiency of covering, is not a valid one.

The fourth objection is one which Mr. T. Pridgin Teale, the son of the originator of the rectangular flap operation, has made in a letter which he published in the *British Medical Journal* for Nov. 7, 1868. He observes, "if, however, the posterior tissues be divided opposite the point selected for saving through the bone, they immediately retract to a point higher up, and thus have the posterior surface of the bone projecting and denuded of soft tissues." At first sight this appears a grave objection; but we need not fear this so much when we reflect "that," as Mr. Lister observes, "it

fortunately happens that the bone lies forward among the muscles, so that even its posterior surface is considerably anterior in position to the longitudinal axis of the limb." The tendency is always for the bone to come forward; and if a proof of this were wanting, we have only to bear in mind the fact that in cases where ulceration of the flap takes place, it is in the great majority of cases through the anterior and not through the posterior or lateral position of the stump that the bone protrudes.

Projection and denudation, therefore, of the bone posteriorly need not, I think, be apprehended.

The remaining objections to the modification—viz., the liability of the cicatrix to become adherent to the immediately subjacent bone, and the increased risk to pyemia, need not, obviously, be dwelt upon.

Such, then, are the advantages of this modification of Teale's amputation, the chief objections which have been raised against it, and the way in which it appears to me they may be best answered. Although I have performed the operation frequently on the dead subject, I have only performed it once on the living, and the result can be judged of by a reference to the accompanying woodcut, taken from a cast of the stump.



I should be sorry to advocate this operation in preference to all other methods of amputation of the thigh. This I do not wish to do, for the result of my experience so far, in amputation cases, is in favour of the circular method, for in this, the subsequent chances of pyemia are, I think, diminished, as there is less exposure of soft tissues, and the veins are divided vertically, at right angles to their continuity, and not obliquely, as they are in all flap

amputations, which latter must render these vessels more liable to take on inflammatory action, from the wounds in them being necessarily so much greater in extent.

Amputation through the Tarsus.—The cases suitable for the performance of Chopart's amputation are very limited, but among them few appear to be better adapted for it than the one which is the subject of the following brief record:—

J. B., aged seventy, a hale old man, who, until recently, had always enjoyed good health, was admitted into the Richmond Surgical Hospital, under my care, in the early part of September, 1868. He stated that about a year previous to his admission into hospital he observed a wart between the fourth and fifth toes of his right foot. For some time it gave him no distress, but after three months it began, from its increasing size, to give him annoyance, and he consulted a local practitioner, who recommended, and applied a powerful caustic to it. This treatment, however, had not the desired effect of destroying the disease, for shortly after ulceration at the situation of the wart appeared, and spread rapidly to the adjacent toes. For several months he was under surgical treatment in the country, and various caustics were applied, but without effectually checking the progress of the disease.

At the time of his admission into the Richmond Hospital the ulceration presented all the external characters of epithelial cancer, and involved the four lesser toes. Small, but frequently repeated hemorrhages took place from the ulceration, which, doubtless, to a great extent, were the cause of the pale anemic appearance the patient had on his admission into hospital. He also suffered occasionally from very severe shooting pains at the situation of the ulceration.

In this case Lisfranc's amputation might, doubtless, have been performed; but adopting a course which I have frequently heard recommended by my colleague, Mr. Adams, of the importance of having a healthy joint between a disease such as we had to deal with in this case, and the situation selected for amputation, I deemed the medio-tarsal operation of Chopart preferable, and accordingly performed it. I operated in the ordinary manner, and met with no difficulties either during or subsequent to the procedure. After the operation was over, and the edges of the wound brought together by numerous points of interrupted silver wire sutures, I dressed the wound by the antiseptic method, and in

doing so, followed as closely as I could the directions given by Professor Lister. Although I cannot by any means endorse all that has been said in reference to this method of dressing wounds, the result in this case was, in truth, very remarkable, for the amount of suppuration which took place during the healing of the wound was almost *nil*. It is unnecessary to give a daily report of the progress of this case. Nothing could have been more perfectly satisfactory. The accompanying woodcut, taken from a drawing of a cast of the stump, will give a better idea than a written description of its appearance.



Amputation of the Penis.—In amputating the penis close to the pubis in cases of extensive cancerous and other diseases necessitating its removal, the operating surgeon has not unfrequently two great difficulties to contend with, which are, first, to prevent the retraction of the stump into the abdomen; and secondly, to arrest the hemorrhage which occasionally supervenes after the retraction has taken place. I have witnessed a truly eminent surgeon all but baffled in his attempt to arrest the bleeding from the face of a stump on its retraction after amputation at the pubis, and the patient faint from loss of blood. Under such unfortunate circumstances, the difficulties in seizing and ligaturing a bleeding vessel cannot, in truth, be exaggerated. To obviate

these difficulties the plan I wish to advocate is one which I first saw practised for the purpose of arresting hemorrhage from the cord, in cases requiring castration, in the Meath Hospital, by my eminent friend, Mr. Porter. It may, I think, well be termed *acupressure en masse*. It consists simply in passing, previous to the amputation, a long acupressure pin through the body of the penis, taking care not to transfix the urethra by keeping well in front of it, and then passing over it a loop of strong iron or silver wire. It is, in truth, nothing but a modification of the third method of acupressure. The principal vessels, which are necessarily divided in the amputation, can thus, previous to the operation, be effectually constricted between the acupressure pin behind and the loop of wire in front. The cases of castration I have above alluded to, were, when the vessels in the cord were dealt with in this manner, almost bloodless operations, and, in truth, the same may now be said of amputation of the penis, if this method, which I can strongly recommend, be adopted, having employed it not only in cases requiring castration, but in those of amputation of the penis, when that organ had to be removed close to the pubis, and in all with uniform success.

CASE I.—Peter M., aged fifty-six, was admitted into No. 6 Ward in the Richmond Hospital, under my care, in February, 1869, suffering from extensive epithelial cancer of the penis. He stated that a warty growth appeared about two years previously on the glans, that it ulcerated and commenced to spread, which it continued doing until the whole organ became engaged. There was a profuse discharge of thin, sanious, and peculiarly fetid matter, so much so as to contaminate the air of the whole ward. From the ulceration also, there were frequently small hemorrhages, which, however, could always be easily arrested. Strange to say, notwithstanding the extensive and truly frightful mass of disease that existed in this case, there was little evidence of glandular contamination in the groins or abdomen. Having no doubt in my mind as to the cancerous nature of the disease, a view which microscopical examination subsequently verified, I recommended amputation, which, in consequence of the very extensive amount of disease, had to be performed close to the pubis. The patient having been brought fully under the influence of chloroform, commenced by passing one of the long pins used for the first method of acupressure through the body of the penis, in front of the urethra. I thus effectually constricted all the tissues in front

of the pin by passing a loop of strong silver wire across, and fixed the wire by giving it a double twist round the handle of the pin. I then removed the organ with a small catlin, and on doing so found there was no bleeding, except from one small vessel beside the urethra, which was not compressed by the pin and wire. The hemorrhage from this vessel was easily arrested by torsion. The urethra was then slit up to the distance of an eighth of an inch, and fixed by two points of interrupted suture to the integument. A catheter was then introduced into the bladder, and fixed by worsted threads to the aeupressure pin. On the second day after the operation the aeupressure pin was removed. The catheter, however, was kept in the bladder for some days longer. Carbolic acid dressings were applied during the healing of the wound. The case went on in every respect most satisfactorily. Three weeks after the operation, the wound having completely healed, the patient left the hospital, being able to pass water in a full, strong, and uninterrupted stream. Six months after the operation I had an opportunity of seeing the patient, and found him in excellent health, and no evidence whatever existed of any return of the disease.

CASE II.—John D., aged sixty, was admitted into No. 7 Ward in the Richmond Hospital, under my care, on the 17th May, 1869, suffering from cancer of the penis. The case presented many features of analogy to the preceding one as regards the amount of disease present, the length of time it had lasted, and the sanious and fetid discharge, which continually oozed from the ulceration. It differed, however, from it in this, that there was obviously a large amount of glandular contamination. The operation of amputation therefore, as was previously explained to the patient, had only for its object the giving of temporary relief. The amputation was performed precisely in the same manner as in the preceding case. The wound healed readily, and the patient returned to the country. Seven months after the operation I heard of this patient from a medical gentleman in the county Mayo, where the patient resides, and he informed me that until quite recently, there was no reappearance of the disease at the site of the operation.

An objection has been made to this method, which is the danger of introducing and leaving for a considerable time in venous erectile tissue, a foreign body, such as an aeupressure pin; for that by doing so the surgeon runs the risk of inducing phlebitis. No

special operative interference with veins is, doubtless, devoid of risk, but at the same time, when one reflects upon the remarkable tolerance of all living tissues for metallic bodies, and that, so far as I am aware, no instance of phlebitis following acupressure has yet been recorded, the surgeon need not, I think, be apprehensive of inducing that disease by the employment of acupressure in the operation of amputation of the penis.

Sub-periosteal Excision of the Elbow-Joint.—James C., aged thirty, was admitted into the Richmond Surgical Hospital on the 18th of last October. He stated that about fourteen months previously, while playing at ball, his foot slipped and he fell. The right elbow was struck with great violence on the ground. Soon after this the joint swelled, and became very painful. From the description given by the patient it was very evident that the case was one of acute arthritis of the elbow-joint. The inflammation never entirely subsided, and six months after the accident, small abscesses formed over the posterior aspect of the joint. At the time of his admission into hospital the joint had become quite ankylosed, and in a very awkward position for the patient, being almost quite extended. The joint presented all the well-known characters of the so-called strumous disease of the elbow, viz., the globular form, the soft parts puffy and elastic, and numerous sinuses which, on being probed, led down to softened diseased bone, &c., &c. Any attempt at flexion was attended with great pain. The patient was otherwise in good health. There was no pulmonary affection, no enlarged lymphatic glands, or scars in the neck, nor any evidence of a strumous tendency except the affection of the elbow. This being the case, I deemed it in every respect suitable for resection, and accordingly I performed the operation. In doing so, I adopted the sub-periosteal method, the steps and advantages to be derived from which, I have already drawn the attention of my surgical brethren in the pages of this Journal, as well as in those of the *British Medical Journal*.

After the removal by Langenbeck's resection saws of the articulating surfaces of the bones, which were found extensively diseased, a piece of oiled lint was placed in the wound to serve as a vent for the pus, and the edges of wound brought together by numerous points of metallic interrupted suture. The limb, in a semi-flexed position, was then encased in a gypsom bandage. The following day I cut an oval window of the length of the wound in the gypsom bandage, and after covering all with a solution of

Dammar resin, to prevent the action of the water from softening the gypsum, the limb was placed in the continual bath, such as I have described in the paper in this Journal which I have already alluded to. The arm was kept in the bath for three weeks, at the end of which time, the wound being nearly healed, it was taken out, and a splint applied on the anterior surface of the arm. It is unnecessary to detail the daily progress of this case. A month after the operation the wound was completely healed, and in six weeks all the sinuses. The limb is still (Dec. 6th) very stiff, but has already some power of flexion and extension, and there is every reasonable prospect of the patient getting eventually excellent use of the arm.

Ovariectomy.—Maria L., a married woman, aged fifty-seven, was admitted into the Richmond Surgical Hospital on the 14th of September, 1868, having for some time previous to this been under the care of my colleague, Dr. Lyons, in the Whitworth Hospital. She first observed enlargement of the abdomen in the Spring of 1864. On her admission into the Richmond Hospital the tumour had reached an enormous size, the girth at the umbilicus being fifty-three inches. The catamenia had always been regular, and she had enjoyed excellent health in every way until the tumour began to grow. About two months previous to her admission into hospital, she suffered from considerable pain in the upper portion of the tumour, and at this situation a peritoneal friction sound was distinctly audible, even to the patient herself. The attack, however, soon subsided. At the time of her admission to the Richmond Hospital she was greatly emaciated, and suffering much from abdominal distension. In other respects the patient was in good health. At this time Dr. Beatty and Dr. Byrne saw the case in consultation with Dr. Lyons and me, and the opinion arrived at was, that notwithstanding the emaciated condition of the patient, the case was one for which the operation of ovariectomy was indicated. On September 15th, the patient having been previously brought under the influence of chloroform, was brought into the operating theatre. I commenced by making a longitudinal incision four inches in length, midway between the umbilicus and pubis, and a careful dissection down to the peritoneum was then made. That structure was then raised off the sac of the cyst by small hooks, and carefully divided in the direction of the original incision. On opening the peritoneum some clear straw-coloured fluid escaped, and then the shining white sac of the cyst was brought distinctly

into view. I then thrust a large trochar, with caoutchouc tubing attached, into the interior of the cyst, and the fluid contents were allowed to flow through the tubing into a large bucket underneath the operating table. Several quarts of a clear tenacious honey-like fluid were evacuated from the first cyst. This being emptied, without removing the trochar, I thrust it into the second cyst, and the fluid contents of this were found to differ completely from the first, being of a dark brown chocolate colour, opaque, and very much thicker, and more tenacious. Twenty-seven quarts of fluid were evacuated from these two cysts. The tumour having now sufficiently collapsed I passed my hand gently between the sac and the peritoneum, to determine whether any adhesions existed. These I found principally at the upper portion of the tumour, and broke them down without any difficulty. I then drew slowly and carefully out through the incision, and the pedicle I found narrow and of considerable length. The folding hinge-clamp, which Dr. Beatty had kindly lent me for this operation, was then applied, the handles removed, and the pedicle divided with a scalpel. The edges of the wound were then carefully brought together above and below the clamp by several points of silver suture, great care being taken to include the peritoneum. Strips of adhesive plaster were placed across the wound, dry lint dressing applied, and the patient immediately removed to the adjacent ward, and placed in a bed previously warmed with hot jars. The patient soon after this rallied, and took some warm brandy, and expressed herself greatly relieved and gratified at the operation having been concluded. At this time (11.40 a.m.) her pulse was 112, and soon after she fell into a quiet sleep.

1 p.m.—Still asleep; pulse 104. Shortly after this she awoke, and had a little burnt brandy, which she appeared to like. I saw her again at 4.15 p.m. with Mr. Fleming. Everything was apparently progressing favourably, no head symptoms, pain in the abdomen, sweating, or vomiting. The surface of the body maintained an equable warm temperature; pulse 120. I visited her again at 9.45 p.m.; all was going on well. She took some iced brandy and chicken broth with relish.

Second Day, 1 a.m.—Complained of great restlessness, with pain over the pubis, accompanied with slight retching, which was checked, and the pain alleviated by the administration of a very small quantity of burnt brandy; pulse 112; some difficulty in breathing, which was relieved by raising her shoulders. 3 a.m.—Pulse 130; had slept a little; does not complain of any pain or uneasiness. At 11.30 a change for the worse occurred. A cold,

clammy perspiration appeared; the pulse rose and became very weak; she had also frequent retching, and great prostration. Nutritive enemata was now administered frequently, and had the effect of making her rally somewhat, but this improvement did not last. She gradually sunk, and at 5.20 p.m. she died. The autopsy revealed the usual evidences of extensive peritonitis; the intestines were much distended with flatus; some fluid was also found in the cavity of the abdomen resembling that contained in the cyst, and lymph was found effused over the surface of the liver. A fibrous tumour about the size of a small orange was found attached to the fundus of the uterus.

Tracheotomy.—The following case is one of very considerable surgical interest, and illustrates, in a remarkable manner, the great practical value of the early performance of tracheotomy in certain cases of œdema of the glottis.

Ann Fullam, aged three years, was admitted into the Richmond Hospital, on Tuesday evening, the 19th June, 1868, suffering from very great dyspnœa. Her mother stated that at five o'clock in the evening, the child attempted to take a drink from a kettle in which there was a quantity of boiling water. Nothing occurred in consequence of this to attract attention, until after the lapse of about two hours, when the breathing becoming short, quick, and stridulous, she was brought to hospital. The following note was taken on the patient's admission:—"The lips were found to have been scalded, and there was a mark down the chin as if produced by a stream of boiling water. The soft palate was whitish, but the tongue was not burned. There was great dyspnœa, with considerable stridor, and a crowing noise resembling that in croup, when she cried. The face was not much congested, but had a glazed, red, shining appearance. She could scarcely speak, uttering now and then a few syllables, which were hoarse and rough."

The case was seen by me shortly after 10 p.m., and, notwithstanding the prompt measures which were had recourse to in order to relieve the dyspnœa, consisting of hot fomentations, poultices to the throat, local depletion, and the active administration of antimonials and mercury internally, the symptoms, as the night advanced, grew worse.

The dyspnœa, which came on in paroxysms of great intensity, became much aggravated, being more frequent and more violent, so that at times the patient was in imminent danger of suffocation.

After midnight the symptoms became so alarming, that I determined that tracheotomy was the only resource left in order to save the patient's life. The operation was accordingly performed above the isthmus of the thyroid, and was greatly facilitated by the tracheotomy hook of Langenbeck. The tube which was introduced was of a size fully adapted for an adult, and to this circumstance I attribute largely the success of the operation.

On the completion of the operation immediate relief ensued, and the child slept soundly the whole night, the tube being occasionally cleared of mucus by means of a feather or a bent probe, with a little French wadding tied on it.

May 20th.—Progressing very favourably; does not suffer any inconvenience from the tube; is very drowsy, and sleeps a great deal. In order to arouse her from what appeared a sort of semi-comatose condition, we administered a small quantity of green tea, which was suggested by Mr. Adams. It had the desired effect. She took also plenty of nourishment, consisting of chicken-broth, egg-flip, wine, &c. The inner tube only required to be taken out once to be cleaned.

21st.—She slept well during the night. The tube required to be cleaned once, and during the day twice. The mucus is very tenacious, and neither a feather nor a probe armed with lint has any effect in bringing it up. Sometimes cleaning the inner tube seems to have no effect in giving relief, the mucus in the trachea being driven up to the outer tube, and is only got rid of by coughing. In the evening there was a slight attack of vomiting, which relieved her greatly.

22nd.—The child sat up this morning. Does not suffer apparently from any inconvenience in wearing the tube. The bowels were well moved.

23rd.—The tube was taken out this morning, but the glottis not being free enough for the child to breathe through, the tube was replaced. The child is cheerful and lively, and eats heartily.

24th.—The tube was taken out to-day, and as it was found she could breathe slightly through the mouth, the tube was left out. Large quantities of viscid mucus are frequently expelled through the wound.

25th.—Patient breathes much more freely through the mouth to-day, but cannot yet speak. Small doses of carb. ammoniæ in syrup of orange flowers were administered.

28th.—Patient attempting to speak. Wound in the trachea granulating and closing quickly.

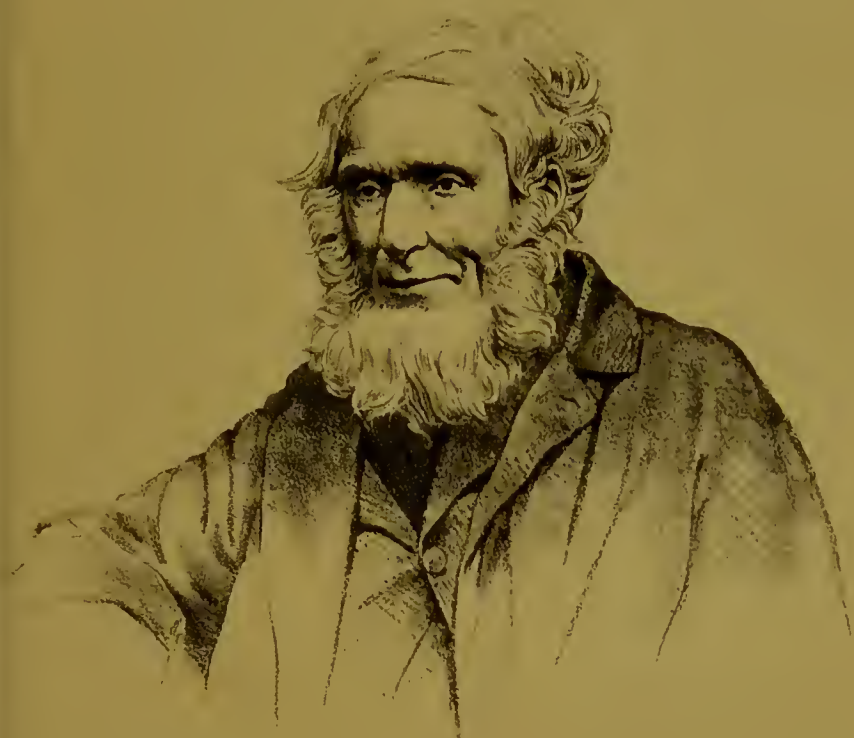
29th.—Articulation much more distinct. Child very anxious to get up.

30th.—The opening in the trachea is now so small as to be scarcely perceptible. Patient speaks distinctly. Appetite is excellent. Patient is cheerful and happy, and respiration perfectly natural.

Burow's Plastic Operation.—P. Delany, aged sixty, was admitted into the Richmond Hospital on May 20th, 1868. The patient stated that about fourteen years ago he received the prick of a needle in the cheek, in the situation of the morbid growth, for the removal of which he had come into hospital. Shortly after getting this apparently trivial injury he perceived a small wart about the size of a grain of rice form exactly in the situation where he got the prick of the needle. The wart remained stationary for a very considerable length of time, after which it seemed to get loosened, and the patient then picked it off with one of his nails. Another then formed in the same situation, and ran precisely the same course. Things remained in this way for several years, the disease being apparently quite localized, and the general health of the patient remaining in every respect perfectly unimpaired. About six months previous to the patient's admission to the Richmond Hospital, the warty growth began to increase in size, and when he came under my care the tumour was fully an inch in length and half an inch in breadth. There was no evidence of any similar disease elsewhere.

The operation which I performed in this case was one originally devised and performed by M. Burow, a distinguished Polish surgeon, and the steps of which I learned from having seen the operation performed some years ago by M. Arlt, the eminent Professor of Ophthalmology in the Vienna University. It appears to me to be specially applicable to operations necessitating the removal of morbid growths on the face, as subsequently the occurrence of a permanent cicatricial deformity is not liable to occur.

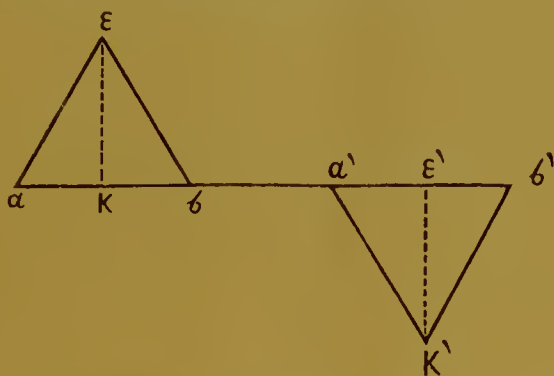
The patient having been brought fully under the influence of chloroform, the tumour was encircled by three incisions in the form of a triangle ($a e b$), the apex of the triangle (e) being above the tumour, and the base ($a b$) below. The tumour and portion of the integument to which it was attached were then carefully excised. The incision ($a b$) was then carried outwards until its entire length ($a b^1$) was three times that of the base of the triangle ($a e b$).



Result obtained after Burow's Operation
(From a Photograph)

Mr Stokes on Burow's Plastic Operation

These particulars of the operation will doubtless be better understood by a reference to the annexed wood-cut.



The next step consisted in making the outer third of this horizontal incision ($a' b'$) the base of a second triangle ($a' k' b'$) in every respect equal to the original one ($a e b$), when the tumour was removed. The integument within the incision, constituting the second triangle ($a' k' b'$), was then carefully dissected off. There were then two raw triangular spaces to be covered in by sound integument, one which had been the seat of the epithelial cancer, and the other in which the integument was perfectly healthy. This was easily effected by dissecting off with great care the triangular flaps ($a a' k'$) and ($e b b'$) from the subjacent structures. This having been done, no difficulty whatever was experienced in bringing the points a and b together by one suture, and the points a' and b' by another. In this way the triangular spaces were completely filled up, without any chance of a broad cicatrix, which would necessarily have been left had either of them been left to fill up by granulations.

The sutures were left undisturbed for three days, after which they were removed. The greater portion of the wound had united by first intention; indeed all, except the points corresponding to the apices of the two triangles. In order to promote union at these points, I inserted two "entomologist" pins, and by a figure of eight suture brought the ununited edges of the wound into close apposition. Nothing could have been more entirely satisfactory than the result of this admirably conceived and extremely ingenious plastic operation. As this is the first time this operation has been performed in this country, the particulars of it and its most successful termination cannot but prove interesting to those who practice this all-important and thoroughly practical department of Operative Surgery.

RICHMOND SURGICAL HOSPITAL.

TABLE giving Statistics of Thirty-three Cases of Fracture treated in Mr. STOKES'S Wards,

From February 1st to July 31st, 1868.

No.	Nature and Cause of Injury	Sex and Age	Method of Treatment	Result	Remarks
1	Compound comminuted fracture of the lower jaw; from a blow of the foot-board of a swing—left side	Male, aged 11.	Iron sutures applied round teeth on each side of fracture; external support with Hide's prepared felt and a four-tailed bandage.	Recovery.	The wire sutures removed fifteen days after the accident.
2	Fracture of femur at centre of shaft, from kick of a horse.	Male, aged 28.	Liston's splint.	Recovery.	
3	Comminuted fracture of tibia and fibula; from a fall while intoxicated.	Male, aged 46, coachman.	Gypsom bandage, afterwards Dupuytren's splint on back of leg.	Recovery.	After the gypsom bandage was taken off ten days after its application, a partial displacement of the lower extremity of tibia forwards was found; this was reduced, and Dupuytren's splint applied on back of leg, and a thick compress placed over the situation where the bone had become displaced.
4	Colles' fracture of the radius; from a fall.	Female, aged 25.	Gordon's splint.	Recovery.	No deformity.
5	Fractured ribs; fall.	Male, aged 34.	Broad strips of adhesive plaster round injured side of thorax, and flannel bandage.	Recovery.	
6	Extra capsular imparted fracture of neck of thigh bone; fall.	Male, aged 68.	At first long extension splint, removed after three weeks.	Recovery.	Shortening half an inch.
7	Fracture of fibula; from a blow of a piece of "pig" iron.	Male, aged 25.	Gypsum bandage.	Recovery.	

8	Intra capsular fracture of the neck of thigh bone; from a fall down a flight of stairs.	Female, aged 60.	Pillow under knees.	This method was adopted in consequence of the patient having had a large ulcer over the external malleolus on the injured side. As this required daily dressing, it was considered that the necessary frequent removal of the long extension splint would be attended with great inconvenience, and accordingly this mode of extension was adopted, and an oval window in the plaster having been made, the dressings were daily applied without in any way disturbing the limb.	No deformity.
9	Fracture of the femur at junction of upper and middle thirds of the bone; fall off a car. Femur had been twice fractured before; the first time thirty years ago; treated by the late Mr. Cusack, in Stevens' Hospital. The second time, four years ago—Mr. Fleming, who treated the second fracture, believed it opened into the knee joint.	Male, aged 50.	American permanent extension method; two broad strips of adhesive plaster on each side of the leg, united by a loop below the foot; over a pulley a "deep-line" cord was placed, one end attached to the loop of plaster, and to the other a 7 lb. iron weight was fixed. Lower part of the bed was raised so that the counter extension was effected by the weight of the patient.		Recovery.
10	Fracture of the fibula; from being tripped up and falling.	Male, aged 31.	Gypsom bandage.		Recovery.
11	Fracture of external condyle of left humerus, a door closing on it.	Male, aged 10.	Pasteboard splints.		Recovery.
12	Fracture of tibia about centre of bone; from the blow of the shaft of a cart.	Male, aged 50.	Box splint.		Death.
13	Fracture of both clavicles, comminuted of left; transverse fracture of sternum opposite cartilage of fourth rib; fractures of all the ribs on left side, and of the three last ribs on right side; fracture of both bones of right fore-arm, and comminuted fracture of right ole of ilium. Caused by being crushed by the wheel of an engine for working the sawing machinery in a timber yard.	Male, aged 40.	—		Death.

TABLE—continued.

No.	Nature and Cause of Injury	Sex and Age	Method of Treatment	Result	Remarks
14	Fracture of left humerus, at centre of the shaft.	Male, aged 19.	American humerus extension splint.	Recovery.	No deformity.
15	Comminuted fracture of the scapula and clavicle—clavicle fractured in six fragments; fracture of the first, second, third, seventh, eighth, and ninth ribs; from a fall down a flight of stairs.	Male, aged 55.	—	Death.	
16	Fracture of clavicle, apparently between conoid and trapezoid ligaments; little or no deformity; from a blow on the shoulder by the buffer of a railway carriage.	Male, aged 24.	Conical pad in the axilla.	Recovery.	Slight deformity.
17	Fracture of clavicle at its greatest curvature; from a fall.	Female, aged 15.	Conical pad in the axilla.	Recovery.	Slight deformity.
18	Fracture of metacarpal bone of thumb; from a blow of a strong stick.	Male, aged 13.	Two narrow straight splints along the dorsal and palmar surface of the thumb.	Recovery.	No deformity.
19	Fracture of first phalanx of thumb; from a blow against an iron railing while patient was running very rapidly.	Male, aged 12.	Gypsum bandage.	Recovery.	
20	Fracture of tibia and fibula; from a horse falling on patient.	Male, aged —	Two lateral metal splints.	Recovery.	
21	Fracture of tibia.	Male, aged 14.	Glue bandage.	Recovery.	
22	Fracture of tibia and fibula; from a fall.	Male, aged 42.	Two side splints.	Recovery.	
23	Compound fracture of metacarpal bone of thumb; from a blow received by the fall of a barrel. Violent inflammation of hand and fore-arm.	Male, aged —	Continual bath at first until inflammation had subsided; then a straight splint along front of fore-arm and hand.	Recovery.	

24	Pott's fracture of the fibula, with fracture and displacement inwards of inner malleolus; from a fall while wrestling.	Male, aged 38.	Dupuytren's splint, subsequently gypsom bandage.	Recovery.
25	Fracture of the radius three and a half inches above its carpal extremity; from a fall.	Male, aged 50.	Pistol splint.	Recovery.
26	Fracture of the lower jaw, near the angle; from a blow.	Male, aged 38.	Splint made of Hide's prepared felt.	Recovery.
27	Collis's fracture of the radius; from a fall.	Female, aged 60.	Pistol splint.	Recovery.
28	Fracture of the humerus at surgical neck. Patient was knocked down by a blow on the head, and on falling the humerus struck against the edge of a stone pavement and was fractured.	Male, aged 45.	American humerus extension splint, afterwards pasteboard splint.	Recovery.
29	Fracture of tibia; from a fall	Male, aged 7.	Two lateral pasteboard splints.	Recovery.
30	Fracture of ribs, with laceration of lung hemothorax, and extensive emphysema; from a fall off a cart.	Male, aged 70.	Broad strips of adhesive plaster, opium, diffusible stimulants, &c., &c.	Death.
31	Fracture, with depression of portion of right parietal bone, extensive effusion of blood between calvarium and dura mater, from laceration of middle meningeal artery, also considerable subarachnoid effusion corresponding to seat of injury.	Male, aged 26.	—	Death.
32	Fracture of the fibula about two inches above external malleolus; from a fall while wrestling.	Male, aged 22.	Box splint.	Recovery.
33	Fracture of tibia and fibula about one inch above the ankle-joint.	Male, aged 23.	Two side zinc splints.	Recovery.

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